

Please REPLACE the paragraph beginning at page 7, line 14, with the following:

--BRIEF DESCRIPTION OF THE DRAWINGS--

At page 9, after line 14, please insert:

--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--

At page 21, please delete line 1, in it's entirety, and insert:

--WHAT IS CLAIMED IS:--

**IN THE CLAIMS:**

Please AMEND the claims as follows. For the Examiner's convenience, all claims are set forth below.

1. (ONE AMENDED) An optical network comprising:  
a plurality of optical network units; and  
an optical source connected and arranged to transmit light signals to each of said plurality of optical network units;  
wherein said optical source is capable of transmitting light signals at one or more of a plurality of different wavelengths, each optical network unit is preconfigured to accept a predetermined different subset of said wavelengths, and each wavelength of said plurality is accepted by a predetermined different subset of optical network units,  
the optical network further comprising:  
control circuitry operable to cause said optical source to transmit light signals at one or more selected such wavelengths corresponding to respective desired subsets of said optical network units and further operable to effect a requested bandwidth redistribution by changing said one or more wavelengths selected for transmission to one or more different wavelengths corresponding to one or more different desired subsets of optical network units.
2. (ONCE AMENDED) An optical network as claimed in claim 1, wherein said control circuitry is operable to cause said optical source to transmit light signals at two or more selected wavelengths corresponding to two or more desired subsets of said optical network units.

3. (ONCE AMENDED) An optical network as claimed in claim 2, wherein said two or more desired subsets together include all of said optical network units.
4. (ONCE AMENDED) An optical network as claimed in claim 1, wherein each of said optical network units is operable to accept more than one of said plurality of wavelengths transmitted by the optical source .
5. (ONCE AMENDED) An optical network as claimed in claim 1, wherein the optical source comprises a plurality of fixed wavelength lasers, each laser being operable to transmit at one of said plurality of wavelengths.
6. (ONCE AMENDED) An optical network as claimed in claim 1, wherein the optical source comprises one or more tunable lasers.
7. (NOT AMENDED) An optical network as claimed in claim 6, wherein the number of tunable lasers is equal to the number of desired subsets of optical network units.
8. (ONCE AMENDED) An optical network as claimed in claim 1, wherein at least one of the optical network units comprises a filter, which passes only those wavelengths that are to be accepted by that optical network unit, and a receiver, which responds to light energy which is passed by the filter.
9. (NOT AMENDED) An optical network as claimed in claim 8, wherein said filter comprises a fixed filter.
10. (NOT AMENDED) An optical network as claimed in claim 8, wherein said filter comprises a Fabry-Perot filter.
11. (NOT AMENDED) An optical network as claimed in claim 8, wherein said filter comprises a tunable filter.
12. (NOT AMENDED) An optical network as claimed in claim 8, wherein said filter comprises a wavelength division demultiplexer which splits the incoming signal into various wavelengths, and wherein only those wavelengths which are to be passed by the filter are connected to the receiver.

13. (ONCE AMENDED) An optical network as claimed in claim 1, wherein, in the case of two or more desired subsets, a particular optical network unit is not included in more than one of the two or more desired subsets of said optical network units.

14. (ONCE AMENDED) An optical network as claimed in claim 1, wherein the network is a passive optical network.

15. (ONCE AMENDED) An optical network as claimed in claim 1, wherein signals transmitted from the optical source to an optical network unit are carried by optical fibers.

16. (ONCE AMENDED) An optical network as claimed in claim 1 as applied to an optical ring architecture.

17. (ONCE AMENDED) An optical network as claimed in claim 1, as applied to a bus architecture.

18. (ONCE AMENDED) An optical network as claimed in claim 1, wherein the optical source is located within one of the optical network units.

19. (ONCE AMENDED) Control circuitry for use in an optical network, which network comprises a plurality of optical network units and an optical source connected and arranged to transmit light signals to each of said plurality of optical network units, said optical source being capable of transmitting light signals at one or more of a plurality of different wavelengths, each optical network unit being pre-configured to accept a predetermined different subset of said wavelengths, and each wavelength of said plurality being accepted by a predetermined different subset of optical network units,

the control circuitry being operable to cause said optical source to transmit light signals at one or more selected such wavelengths corresponding to respective desired subsets of said optical network units and further being operable to effect a requested bandwidth redistribution by changing said one or more wavelengths selected for transmission to one or more different wavelengths corresponding to one or more different desired subsets of optical network units.

20. (ONCE AMENDED) Control circuitry as claimed in claim 19 which is operable to cause said optical source to transmit light signals at two or more selected wavelengths corresponding to two or more desired subsets of said optical network units.

21. (ONCE AMENDED) Control circuitry as claimed in claim 20, wherein said two or more desired subsets together include all of said optical network units.

22. (ONCE AMENDED) Control circuitry as claimed in claim 19, wherein, in the case of two or more desired subsets, a particular optical network unit is not included in more than one of the two or more desired subsets of said optical network units.

23. (ONCE AMENDED) A dynamic bandwidth assignment method for an optical network comprising a plurality of optical network units and an optical source connected and arranged to transmit light signals to each of said plurality of optical network units, said optical source being capable of transmitting light signals at one or more of a plurality of different wavelengths, each optical network unit being pre-configured to accept a predetermined different subset of said wavelengths, and each wavelength of said plurality being accepted by a predetermined different subset of optical network units, in which method:

light signals are transmitted by said optical source at one or more wavelengths, selected from said plurality of wavelengths, corresponding to one or more desired subsets of optical network units, and,

in response to a required bandwidth redistribution, said one or more wavelengths at which light signals are transmitted by said optical source are changed to one or more different wavelengths, selected from said plurality, which correspond to one or more different desired subsets of optical network units.

24. (ONCE AMENDED) A method as claimed in claim 23, wherein light signals are transmitted by said optical source at two or more wavelengths, selected from said plurality of wavelengths, corresponding to two or more desired subsets of optical network units.

25. (ONCE AMENDED) A method as claimed in claim 24, wherein said two or more desired subsets together include all of said plurality of optical network units.

26. (ONCE AMENDED) A method as claimed in claim 23, wherein, in the case of two or more desired subsets, a particular optical network unit is not included in more than one of the two or more desired subsets.

Please ADD the following new claim:

27. (NEW) An optical network comprising:  
a plurality of optical network units; and  
optical source means connected and arranged to transmit light signals to each of  
said plurality of optical network units;  
wherein said optical source means are capable of transmitting light signals at one or  
more of a plurality of different wavelengths, each optical network unit is pre-configured to  
accept a predetermined different subset of said wavelengths, and each wavelength of said  
plurality is accepted by a predetermined different subset of optical network units,  
the optical network further comprising:  
control means operable to cause said optical source means to transmit light signals  
at one or more selected such wavelengths corresponding to respective desired subsets of  
said optical network units and further operable to effect a requested bandwidth redistribution  
by changing said one or more wavelengths selected for transmission to one or more  
different wavelengths corresponding to one or more different desired subsets of optical  
network units.

#### **REMARKS**

The claims are amended herein. New claim 27 is added. Therefore, it is respectfully  
submitted that claims 1-27 are currently pending.

The present application is a US National Stage application of a PCT International  
Application. The Notice of Acceptance, mailed December 13, 2001, indicates that the  
USPTO has received the copy of the International Application.

The amendments to the specification and claims made herein are to the copy of the  
International Application received by the USPTO. A marked-up copy of the amended pages  
of the specification of the International Application is also submitted herewith, to clearly  
show the amendments. Further, a Substitute Specification is enclosed herewith, and  
incorporates the amendments to the specification. Generally, the amendments are made  
simply to place the application in improved U.S. format.

Please note that an additional copy of the application was filed along with the  
Application Transmittal Letter on August 31, 2001. That additional copy **includes** the  
specification and claim amendments made herein, and is the same as the Substitute  
Specification filed herewith, including the claim amendments made herein.

The undersigned attorney hereby confirms that the Applicants claim benefit under 35  
USC § 365(c) of PCT International Application No. PCT/GB00/00757 filed March 3, 2000.